

Claim 5 (Original): The receiver of claim 2 wherein the filter is a Nyquist filter.

Claim 6 (Original): The receiver of claim 2 wherein the filter upsamples the received TDMA signal and performs the functions of a Nyquist filter.

Claim 7 (Original): The receiver of claim 1 further comprising a scaler for adjusting the magnitude of the received TDMA signal.

Claim 8 (original): The receiver of claim 7 further comprising an automatic gain control circuit for controlling the scaler.

Claim 9 (Original): The receiver of claim 8 further comprising an estimator for determining received signal strength and providing an estimate of received signal strength to the automatic gain control circuit.

Claim 10 (Original): The receiver of claim 1 further comprising a channel impulse response estimator for estimating the response of the transmission channel and updating the coefficients of the matched filter.

Claim 11 (Original): The receiver of claim 10 further comprising a delay-epoch estimator for controlling the sampler in response to an input from the channel impulse response estimator.

a scaler to which is applied an output signal from the derotator;

a matched filter to which is supplied an output signal from the scaler;

an equalizer to which is applied an output signal from the matched filter;

a deinterleaver to which is applied an output signal from the equalizer;

a channel decoder to which is applied an output signal from the deinterleaver; and

a block decoder to which is applied an output signal from the channel decoder.

Claim 17 (New): A receiver for processing time division multiple access (TDMA) signals comprising:

a sampling means for sampling a TDMA signal received from a transmission channel;

a derotating means for correcting for frequency offset in the sampled TDMA signal;

a matched filtering means for correcting for the response of the transmission channel in the received TDMA signal;

an equalizing means to which is applied an output signal from the matched filtering means;

a deinterleaving means to deinterleave the received TDMA signal; and

a channel decoding means for decoding the received TDMA signal after it is deinterleaved.

Claim 18 (New): The receiver of claim 17 further comprising a filtering means for filtering the received TDMA signal before it is sampled by the sampling means.

Claim 19 (New): The receiver of claim 18 wherein the filtering means is an interpolation filter for upsampling the received TDMA signal.

Claim 20 (New): The receiver of claim 18 wherein the filtering means is a matched filter for pulse shaping the received TDMA signal.

Claim 21 (New): The receiver of claim 18 wherein the filtering means is a Nyquist filter.

Claim 22 (New): The receiver of claim 18 wherein the filtering means upsamples the received TDMA signal and performs the functions of a Nyquist filter.

Claim 23 (New): The receiver of claim 17 further comprising a scaling means for adjusting the magnitude of the received TDMA signal.

Claim 24 (New): The receiver of claim 23 further comprising an automatic gain control means for controlling the scaling means.

Claim 25 (New): The receiver of claim 24 further comprising an estimating means for determining received signal strength and providing an estimate of received signal strength to the automatic gain control means.

Claim 26 (New): The receiver of claim 17 further comprising a channel impulse response estimating means for estimating the response of the transmission channel and updating the coefficients of the matched filtering means.

Claim 27 (New): The receiver of claim 26 further comprising a delay-epoch estimating means for controlling the sampling means in response to an input from the channel impulse response estimating means.

Claim 28 (New): The receiver of claim 17 further comprising a frequency offset estimating means for estimating frequency offset and adjusting the derotating means to response to such estimate.

Claim 29 (New): The receiver of claim 17 further comprising a received signal quality metric indicating means for measuring signal quality of the received TDMA signal.

Claim 30 (New): The receiver of claim 29 wherein the measurement of signal quality is used to condition an output signal from the channel decoding means.

Claim 31 (New): The receiver of claim 17 further comprising a block decoding means for decoding an output signal from the channel decoding means.

Claim 32 (New): A receiver for processing time division multiple access (TDMA) signals comprising:

an interpolation filtering means to which the TDMA signals are applied;

a pulse shaping matched filtering means to which is applied an output signal from the interpolation filtering means;

a sample selecting means to which is applied an output signal from the pulse shaping matched filtering means;

a derotating means to which is applied an output signal from the sample selecting means;

a scaling means to which is applied an output signal from the derotating means;

a matched filtering means to which is supplied an output signal from the scaling means;

an equalizing means to which is applied an output signal from the matched filtering means;

a deinterleaving means to which is applied an output signal from the equalizing means;

a channel decoder to which is applied an output signal from the deinterleaver; and

a block decoding means to which is applied an output signal from the channel decoding means.

Claim 33 (New): A method for processing time division multiple access (TDMA) signals comprising the steps of:

sampling a TDMA signal received from a transmission channel;

correcting for frequency offset in the sampled TDMA signal;

correcting for the response of the transmission channel in the received TDMA signal;
equalizing the response corrected TDMA signal;
deinterleaving the received TDMA signal; and
decoding the received TDMA signal after it is deinterleaved.

Claim 34 (New): The method of claim 33 further comprising the step of filtering the received TDMA signal before it is sampled by the sampler.

Claim 35 (New): The method of claim 34 wherein the filtering step comprises the steps of upsampling the received TDMA signal and performing the functions of a Nyquist filter.

Claim 36 (New): The method of claim 33 further comprising the step of adjusting the magnitude of the received TDMA signal.

Claim 37 (New): The method of claim 33 further comprising the step of measuring signal quality of the received TDMA signal.